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IMAGES IN CARDIOLOGY

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Double coarctation and double grafts: role of computed tomographic angiography in diagnosis of a clinic mystery

A 27 year old woman was admitted to our clinic with left upper extremity pain of two months' duration. History of the patient revealed two operations for coarctation of the aorta. The left subclavian artery to descending thoracic aorta and the ascending aorta to descending thoracic aorta grafts were interposed at 2002 and 2003, respectively. Blood pressure was 120/80 mm Hg from the right brachial artery, 70/40 mm Hg from the left brachial artery, and 90/60 mm Hg from the left and right popliteal arteries. Auscultation revealed second degree systolic ejection murmur at the left upper sternal border radiating to the interscapular area. To define the underlying cause of the extremity pain computed tomographic (CT) angiography was performed. Three dimensional CT angiography (see panel) identified the proximal (asterisk) and distal (double asterisk) coarctation segments, the two grafts, and the occluded left subclavian artery. Unfortunately, the first graft (arrowhead) was interposed between the left subclavian artery and the descending aorta in between the two coarctation segments which, possibly, made a second operation necessary. The second graft (arrow) was interposed between the ascending aorta (Asc. Ao) and descending thoracic aorta (Desc. Ao). Shunting of blood via the aorta–aortic graft and the recent operation may be the underlying causes of the left subclavian artery occlusion and left upper extremity pain. CT angiography provides suitable images for the diagnosis and localisation of coarctation of the aorta, which may aid in surgical planning.

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